Name:

at1113exam: Expand, factor, and solve quadratics (v334)

1. Expand the following expression into standard form.

$$(7x - 6)(8x + 9)$$

$56x^2 + 63x - 48x - 54$

$56x^2 + 15x - 54$

2. Expand the following expression into standard form.

$$(8x - 3)(8x + 3)$$

$64x^2 + 24x - 24x - 9$

$64x^2 - 9$

3. Solve the equation.

$$(8x + 7)(2x - 9) = 0$$

$x = \frac{-7}{8}$ $x = \frac{9}{2}$

4. Expand the following expression into standard form.

$$(7x - 8)^2$$

$49x^2 - 56x - 56x + 64$

$49x^2 - 112x + 64$

5. Solve the equation.

$$6x^2 + 28x + 70 \;=\; 4x^2 + 3x - 2$$

$$2x^2 + 25x + 72 = 0$$
$$(2x + 9)(x + 8) = 0$$
$$x = \frac{-9}{2} \qquad x = -8$$

6. Factor the expression.

$$x^2 - 4x - 32$$

$$(x - 8)(x + 4)$$

7. Factor the expression.

$$9x^2 - 49$$

$$(3x - 7)(3x + 7)$$

8. Solve the equation with factoring by grouping.

$$12x^2 + 10x + 18x + 15 \;=\; 0$$

$$(2x + 3)(6x + 5) = 0$$
$$x = \frac{-3}{2} \qquad x = \frac{-5}{6}$$